

EXHIBIT 3

DEFENDANTS' INVALIDITY CONTENTIONS
APPENDIX D12

Intellectual Ventures II LLC v. FedEx Corp.

Civil Action No. 2:16-cv-00980 (E.D. Tex.)

INVALIDITY CHART FOR U.S. PATENT NO. 8,494,581


AND

FedEx Prior Art Systems


As shown below, one or more of the FedEx Customer Operations Service Master On-Line System (“COSMOS”), FedEx Digitally Assisted Dispatch System (“DADS”), FedEx Supertracker, FedEx Enhanced Supertracker, FedEx DADS Terminal, FedEx DADS Handheld, and FedEx PowerPad, formed one or more prior art systems (the “FedEx Prior Art Systems”) that anticipate the claims of U.S. Patent No. 8,494,581 (“*Barbosa*” or the “’581 patent”). Alternatively or additionally, the FedEx Prior Art Systems render obvious claims of the ’581 patent, either alone or in combination with one or more of the following:

- U.S. Patent No. 6,292,181 to Banerjee (“*Banerjee*”)
- U.S. Patent No. 5,589,835 to Gildea (“*Gildea*”)
- U.S. Patent No. 6,216,158 to Luo (“*Luo*”)
- U.S. Patent No. 6,671,757 to Mutler (“*Mutler*”)
- U.S. Patent No. 6,553,375 to Huang (“*Huang*”)
- U.S. Patent No. 6,131,116 to Riggins (“*Riggins*”)
- U.S. Patent No. 6,321,158 to DeLorme (“*DeLorme*”)
- U.S. Patent No. 6,633,900 to Khalessi (“*Khalessi*”)
- U.S. Patent No. 6,148,261 Obradovich (“*Obradovich*”)
- U.S. Patent No. 5,857,201 to Wright, Jr. (“*Wright*”)

The above reference combinations are exemplary only and are not intended to be limiting. For example, the FedEx Prior Art Systems also render obvious the ’581 patent in combination with one or more of the other prior art provided the claim charts in Appendices D01-D11, D13, D14, and/or the prior art provided in Appendix F.

'581 Patent Claims	Disclosure by FedEx Prior Art Systems and/or Other Prior Art
<p>1. A method, comprising:</p> <p>using a handheld device</p>	<p>FedEx Prior Art Systems, such as COSMOS, DADS, Supertracker, has been used in package tracking for over a decade prior to the priority date of the '581 patent. <i>See, e.g.,</i> Carl Nehls, Custodial Package Tracking at Federal Express, in <i>Managing Innovation: Cases from the Services Industries</i>, National Academy of Engineering, at 57-81 (1988) (“Nehls”) (discussing the implementation, operation, and advertisement of COSMOS, DADS, and Supertracker in 1987); <i>see also</i> Stephenson at 5:23-10:58 (discussing COSMOS, DADS, Supertracker, Enhanced Supertracker, and Powerpad in 1997). These and other FedEx prior art devices that are a part of the FedEx Prior Art Systems, such as Enhanced Supertracker and DADS Handheld predate the '581 patent.</p> <p>Example prior art devices are shown below.</p> <p>FedEx Supertracker:</p>  <p>FedEx DADS Terminal:</p>

'581 Patent Claims	Disclosure by FedEx Prior Art Systems and/or Other Prior Art
	<div data-bbox="940 256 1507 792" data-label="Image"> </div> <p data-bbox="592 824 915 860">FedEx DADS Handheld:</p>

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to access an assessment program stored in a	The FedEx Prior Art Systems used the Supertracker, DADS handheld, and/or Powerpad to access programs stored in the memory of remote computing devices. These remote computing devices

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memory of a computing device located geographically remote from the handheld device,	<p>included FedEx COSMOS and/or DADS systems. <i>See, e.g.</i>, App. D10 (including citations to Stephenson describing the FedEx Prior Art Systems); Federal Express, Enhanced SuperTracker (EST) Maintenance Manual, at §§ 1, 2, Appx. A (Aug. 31, 1997); Federal Express, Future Courier Tool Concepts, V0.2, at 2-7 (May 10, 1995); Federal Express, DADS User Manual (Training Version) (May 1995); Federal Express, The Federal Express DADS Handheld: An Introduction, V1.2, at 2-39 (Apr. 17, 1995); Federal Express, FMT941 Mobile Data Terminal Maintenance Manual (Aug. 31, 1994). <i>See also</i> Carl Nehls, Custodial Package Tracking at Federal Express, in Managing Innovation: Cases from the Services Industries, National Academy of Engineering, at 57-81 (1988) (“Nehls”) (discussing the implementation, operation, and advertisement of COSMOS, DADS, and Supertracker in 1987); Richard O. Mason, Absolutely, Positively Operations Research: The Federal Express Story, Institute for Operations Research and the Management Sciences, Interfaces 27:2, at 29-30 (Mar.-Apr. 1997).</p> <p><i>See also</i> Expected testimony and evidence from current and former FedEx employees and/or those familiar with the development, design, and/or use of the FedEx Prior Art Systems.</p> <p>To the extent it is argued that further disclosure is required, Banerjee, Luo, Stephenson, and the OmniTRACS system each discloses this feature. <i>See</i> Apps. D10, D13. It would have been obvious to one skilled in the art to combine the teachings of the FedEx Prior Art Systems with Banerjee, Luo, Stephenson, and/or the OmniTRACS system because each discloses use of a driver-side and a system-side system to communicate between a handheld device and a centralized system. Further, one skilled in the art would have been motivated and would have found it obvious to incorporate into the FedEx Prior Art Systems Banerjee’s, Luo’s, Stephenson’s, and/or OmniTRACS’ disclosure because doing so would have been nothing more than the combination of known elements to achieve a predictable result.</p>
the assessment program being configured to enable a field assessment	The FedEx Prior Art Systems used the Supertracker, DADS handheld, and/or Powerpad to access programs that are configured to enable a field assessment in the shipping/package delivery industry. <i>See, e.g.</i> , App. D10 (including citations to Stephenson describing the FedEx Prior Art Systems); Federal Express, Enhanced SuperTracker (EST) Maintenance Manual, at §§ 1, 2, Appx.

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in a specific industry;	<p>A (Aug. 31, 1997); Federal Express, Future Courier Tool Concepts, V0.2, at 2-7 (May 10, 1995); Federal Express, DADS User Manual (Training Version) (May 1995); Federal Express, The Federal Express DADS Handheld: An Introduction, V1.2, at 2-39 (Apr. 17, 1995); Federal Express, FMT941 Mobile Data Terminal Maintenance Manual (Aug. 31, 1994). <i>See also</i> Nehls at 57-81; Richard O. Mason, Absolutely, Positively Operations Research: The Federal Express Story, Institute for Operations Research and the Management Sciences, Interfaces 27:2, at 29-30 (Mar.-Apr. 1997).</p> <p><i>See also</i> Expected testimony and evidence from current and former FedEx employees and/or those familiar with the development, design, and/or use of the FedEx Prior Art Systems.</p>
collecting field data associated with the field assessment using the handheld device in response to the assessment program;	<p>The FedEx Prior Art Systems used the Supertracker, DADS handheld, and/or Powerpad to collect field data in the form of bar code data, signature data, and inputs from the user in response to a predefined delivery route. <i>See, e.g.</i>, App. D10 (including citations to Stephenson describing the FedEx Prior Art Systems); Federal Express, Enhanced SuperTracker (EST) Maintenance Manual, at §§ 1, 2, Appx. A (Aug. 31, 1997); Federal Express, Future Courier Tool Concepts, V0.2, at 2-7 (May 10, 1995); Federal Express, DADS User Manual (Training Version) (May 1995); Federal Express, The Federal Express DADS Handheld: An Introduction, V1.2, at 2-39 (Apr. 17, 1995); Federal Express, FMT941 Mobile Data Terminal Maintenance Manual (Aug. 31, 1994). <i>See also</i> Nehls at 57-81; Richard O. Mason, Absolutely, Positively Operations Research: The Federal Express Story, Institute for Operations Research and the Management Sciences, Interfaces 27:2, at 29-30 (Mar.-Apr. 1997).</p> <p><i>See also</i> Expected testimony and evidence from current and former FedEx employees and/or those familiar with the development, design, and/or use of the FedEx Prior Art Systems.</p>

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<p>using the handheld device to determine a geographical location of the handheld device; and</p>	<p>The FedEx Prior Art Systems used the Supertracker, DADS handheld, and/or Powerpad to determine its geographical location when the user scans a package and provides a proof of delivery. The scan data for proof of delivery includes the delivery location, which is the location of the handheld device. <i>See, e.g.</i>, App. D10 (including citations to Stephenson describing the FedEx Prior Art Systems); Federal Express, Enhanced SuperTracker (EST) Maintenance Manual, at §§ 1, 2, Appx. A (Aug. 31, 1997); Federal Express, Future Courier Tool Concepts, V0.2, at 2-7 (May 10, 1995); Federal Express, DADS User Manual (Training Version) (May 1995); Federal Express, The Federal Express DADS Handheld: An Introduction, V1.2, at 2-39 (Apr. 17, 1995); Federal Express, FMT941 Mobile Data Terminal Maintenance Manual (Aug. 31, 1994). <i>See also</i> Nehls at 57-81; Richard O. Mason, Absolutely, Positively Operations Research: The Federal Express Story, Institute for Operations Research and the Management Sciences, Interfaces 27:2, at 29-30 (Mar.-Apr. 1997).</p> <p><i>See also</i> Expected testimony and evidence from current and former FedEx employees and/or those familiar with the development, design, and/or use of the FedEx Prior Art Systems.</p> <p>To the extent it is argued that further disclosure is required, the FedEx Prior Art Systems in view of Gildea discloses this feature. <i>See, e.g.</i>, App. D10 (including citations to Stephenson describing the FedEx Prior Art Systems and citations to Gildea). Gildea discloses a GPS receiver system with a GPS antenna and differential GPS radio receiver in a personal computing device. Gildea discloses that “[t]he system 10 includes a GPS Smart Antenna receiver module 12 to determine a geographical location of the module 12 and a personal computing display 13 to display the location to a human user.” Similar to the handheld devices of the FedEx Prior Art Systems, Gildea discloses that the personal computing device may be a “digital assistant, a personal digital assistant (PDA), a personal information manager (PIM), [or] a notebook computer.” <i>See, e.g., Gildea</i>, Abstract; Figs. 1-2b; 1:20-8:45; Claims 1-15. One skilled in the art would combine the GPS system of Gildea with the data collecting abilities of the FedEx Prior Art Systems to provide users with accurate location information while collecting package data and signature data. Doing so would be nothing more than combining known elements to yield a predictable result.</p>

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<p>communicating the field data collected using the handheld device and the geographical location of the handheld device to the computing device.</p>	<p>The FedEx Prior Art Systems used the Supertracker, DADS handheld, and/or Powerpad to communicate the collected data to the central computer. The FedEx Prior Art Systems and/or the FedEx Prior Art Systems in view of Gildea communicate GPS data to a central computer. <i>See, e.g.</i>, App. D10 (including citations to Stephenson describing the FedEx Prior Art Systems and citations to Gildea); Federal Express, Enhanced SuperTracker (EST) Maintenance Manual, at §§ 1, 2, Appx. A (Aug. 31, 1997); Federal Express, Future Courier Tool Concepts, V0.2, at 2-7 (May 10, 1995); Federal Express, DADS User Manual (Training Version) (May 1995); Federal Express, The Federal Express DADS Handheld: An Introduction, V1.2, at 2-39 (Apr. 17, 1995); Federal Express, FMT941 Mobile Data Terminal Maintenance Manual (Aug. 31, 1994). <i>See also</i> Nehls at 57-81; Richard O. Mason, Absolutely, Positively Operations Research: The Federal Express Story, Institute for Operations Research and the Management Sciences, Interfaces 27:2, at 29-30 (Mar.-Apr. 1997).</p> <p><i>See also</i> Expected testimony and evidence from current and former FedEx employees and/or those familiar with the development, design, and/or use of the FedEx Prior Art Systems.</p>
<p>2. The method of claim 1, further comprising generating field assessment data by rendering the collected field data with the assessment program to complete the field assessment.</p>	<p>The FedEx Prior Art Systems generated field assessment data by rendering the collected field data feature in at least three ways. First, the FedEx Prior Art Systems rendered the collected data by processing the bar code data and/or signature data. Second, FedEx Prior Art Systems rendered the collected data by printing shipping labels. Finally, FedEx Prior Art Systems rendered the collected data by displaying on the data collection terminal. <i>See, e.g.</i>, App. D10 (including citations to Stephenson describing the FedEx Prior Art Systems and citations to Banerjee and Luo); Federal Express, Enhanced SuperTracker (EST) Maintenance Manual, at §§ 1, 2, Appx. A (Aug. 31, 1997); Federal Express, Future Courier Tool Concepts, V0.2, at 2-7 (May 10, 1995); Federal Express, DADS User Manual (Training Version) (May 1995); Federal Express, The Federal Express DADS Handheld: An Introduction, V1.2, at 2-39 (Apr. 17, 1995); Federal Express, FMT941 Mobile Data Terminal Maintenance Manual (Aug. 31, 1994). <i>See also</i> Nehls at 57-81; Richard O. Mason, Absolutely, Positively Operations Research: The Federal Express Story, Institute for Operations Research and the Management Sciences, Interfaces 27:2, at 29-30 (Mar.-</p>

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	<p>Apr. 1997). One skilled in the art would recognize both processing, printing, and/or displaying the collected data to be “generating field assessment data by rendering the collected field data with [an] assessment program to complete [a] field assessment,” based on the plain meaning of these terms.</p> <p><i>See also</i> Expected testimony and evidence from current and former FedEx employees and/or those familiar with the development, design, and/or use of the FedEx Prior Art Systems.</p>
<p>3. The method of claim 1, further comprising wirelessly transmitting the collected field data to the computing device using a wireless transmitter in the handheld device.</p>	<p>The FedEx Prior Art Systems used an infrared communications link and a microradio link for wirelessly transmitting the collected field data from the handheld device to the central computer. <i>See, e.g.</i>, App. D10 (including citations to Stephenson describing the wireless transmitter in the FedEx Prior Art Systems); Federal Express, Enhanced SuperTracker (EST) Maintenance Manual, at §§ 1, 2, Appx. A (Aug. 31, 1997); Federal Express, Future Courier Tool Concepts, V0.2, at 2-7 (May 10, 1995); Federal Express, DADS User Manual (Training Version) (May 1995); Federal Express, The Federal Express DADS Handheld: An Introduction, V1.2, at 2-39 (Apr. 17, 1995); Federal Express, FMT941 Mobile Data Terminal Maintenance Manual (Aug. 31, 1994). <i>See also</i> Nehls at 57-81; Richard O. Mason, Absolutely, Positively Operations Research: The Federal Express Story, Institute for Operations Research and the Management Sciences, Interfaces 27:2, at 29-30 (Mar.-Apr. 1997).</p> <p><i>See also</i> Expected testimony and evidence from current and former FedEx employees and/or those familiar with the development, design, and/or use of the FedEx Prior Art Systems.</p>
<p>4. The method of claim 3, wherein the wireless transmitter in the handheld device</p>	<p>The FedEx Prior Art Systems disclosed both an infrared communications link for wirelessly transmitting the collected field data from the handheld device to the central computer. <i>See, e.g.</i>, App. D10 (including citations to Stephenson describing the infrared transmitter in the FedEx Prior Art Systems); Federal Express, Enhanced SuperTracker (EST) Maintenance Manual, at §§ 1, 2, Appx. A (Aug. 31, 1997); Federal Express, Future Courier Tool Concepts, V0.2, at 2-7 (May 10,</p>

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includes an infrared transmitter.	<p>1995); Federal Express, DADS User Manual (Training Version) (May 1995); Federal Express, The Federal Express DADS Handheld: An Introduction, V1.2, at 2-39 (Apr. 17, 1995); Federal Express, FMT941 Mobile Data Terminal Maintenance Manual (Aug. 31, 1994). <i>See also</i> Nehls at 57-81; Richard O. Mason, Absolutely, Positively Operations Research: The Federal Express Story, Institute for Operations Research and the Management Sciences, Interfaces 27:2, at 29-30 (Mar.-Apr. 1997).</p> <p><i>See also</i> Expected testimony and evidence from current and former FedEx employees and/or those familiar with the development, design, and/or use of the FedEx Prior Art Systems.</p> <p>FedEx Prior Art Systems in view of Gildea also discloses that its wireless transmission to a host computer may be accomplished using an infrared transmitter/infrared link. <i>See</i>, Gildea, Abstract; Figs. 1-2b; 1:20-8:45; Claims 1-15.</p> <p>(<i>Gildea</i> at Abstract) A GPS receiver system to determine and display a geographical differential Global Positioning System (DGPS) location where the components of the system are interconnected with an airwave infrared (IR) link.</p> <p>(<i>Gildea</i> at 2:48-57) The GPS/DGPS Smart Antenna unit may use a wireless radio frequency or infrared (IR) frequency link to connect to the personal computing device. The IR frequency link has the advantage that it does not interfere with reception of airwave radio frequency signals used for navigation and does not require testing or certification by the FAA or FCC. This format eliminates the expense, reliability problems, and inconvenience of the cable but, does not allow a standard construction of the GPS receiver component.</p> <p>(<i>Gildea</i> at 5:14-34) The microprocessor 36 issues electronic display signals to a display</p>

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	<p>device 46, such as a liquid crystal (LCD), light emitting diode LED display, or an equivalent to display the user output information in a form that is visible to the human user. Optionally, the display device 46 includes a speaker to display the information in a form that is audible to the human user. In a preferred embodiment, the processor system 32, the user entry device 44, the display device 46, the display IR receiver 20, and the display IR transmitter 22 are included in a commercially available personal digital computing device, such as are manufactured by several companies including Casio, Apple, Hewlett-Packard, and Sony and known by various names, such as a digital assistant, a personal digital assistant (PDA), a personal information manager (PIM), a notebook computer, a sub-notebook computer, a PCMCIA computer, a "Zoomer", a "Newton," a "Dataman," or an equivalent. Optionally, the display IR receiver 20 and the display IR transmitter 22 may be included as an accessory to the commercially available device.</p> <p>FedEx Prior Art Systems in view of Luo also discloses this feature. Luo discloses that an infrared connection to control programs on a host computer using the palm-sized computer. <i>See, e.g., Luo, 5:57-65.</i></p> <p>(<i>Luo</i> at 5:57-65) Establish a network connection from the control device 200 to the network 110. For Palm computers, there are multiple options for network connectivity. Possible solutions include using the infrared (IR) port to talk to a IR-LAN bridge or router, using the serial port to talk to a serial-to-LAN bridge or router, using either the IR or the serial port to talk to a digital cell phone and dial up a modem server, and/or using wireless data communications.</p>
5. The method of claim 3, wherein the computing device includes a server configured to store the	The computing devices of the FedEx Prior Art Systems, including COSMOS and DADS, included servers. <i>See, e.g.,</i> Federal Express, Enhanced SuperTracker (EST) Maintenance Manual, at §§ 1, 2, Appx. A (Aug. 31, 1997); Federal Express, Future Courier Tool Concepts, V0.2, at 2-7 (May 10, 1995); Federal Express, DADS User Manual (Training Version) (May 1995); Federal Express, The Federal Express DADS Handheld: An Introduction, V1.2, at 2-39 (Apr. 17, 1995); Federal Express, FMT941 Mobile Data Terminal Maintenance Manual (Aug. 31, 1994). <i>See also</i> Nehls at

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assessment program.	<p>57-81; Richard O. Mason, Absolutely, Positively Operations Research: The Federal Express Story, Institute for Operations Research and the Management Sciences, Interfaces 27:2, at 29-30 (Mar.-Apr. 1997).</p> <p><i>See also</i> Expected testimony and evidence from current and former FedEx employees and/or those familiar with the development, design, and/or use of the FedEx Prior Art Systems.</p> <p>The combination of the FedEx Prior Art Systems and Mutler, and the FedEx Prior Art Systems and Luo, in view of Mutler, also disclose this feature. Mutler discloses transferring data and synchronizing devices across networks between computing devices (e.g., a handheld device) and a storage server. One skilled in the art would recognize Mutler's storage server as being configured to store the assessment program and make it accessible to the handheld devices of the FedEx Prior Art Systems and the FedEx Prior Art Systems in view of Luo. <i>See</i>, the disclosures cited for claims 1-4; <i>see also</i>, <i>Mutler</i>, Abstract; Figs. 1-17; 1:16-4:38; 5:11-16:64; 33:7-35:48; Claims 1-29.</p> <p>(<i>Mutler</i> at Abstract) A system and method for synchronizing devices which can couple to the Internet, or any network. The system includes a first sync engine on the first system interfacing with data on the first system to provide difference information. A data store is coupled to the network and in communication with the first and second systems. A second sync engine is provided on the second system coupled to receive the difference information from the data store via the network, and interface with data on the second system to update said data on the second system with said difference information. Difference information is transmitted to the data store by the first sync engine and received from the data store from the second sync engine.</p> <p>(<i>Mutler</i> at 5:12-29) The present invention includes a system and a method for transferring data between two devices which require information to be shared between them. In accordance with the discussion herein, a "device" is defined as a collection of elements or</p>

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	<p>components organized for a common purpose, and may include hardware components of a computer system, personal information devices, hand-held computers, notebooks, or any combination of hardware which may include a processor and memory which is adapted to receive or provide information to another device; or any software containing such information residing on a single collection of hardware or on different collections of hardware. Such software might include applications such as personal information managers, which include contact data and other such information, e-mail systems, and file systems, such as those utilized by Microsoft Windows NT operating systems, Unix operating systems, Linux operating systems, or other systems capable of storing file types having binary formats which translate to application formats of differing types.</p> <p>(<i>Mutler</i> at 10:32-47) As shown in FIG. 8, some device engines are provided entirely on the device (and are referred to herein as desktop device engines), while others include components a the back end server (which may comprise storage server 850 or a specialized server, as shown in FIG. 9B.) This is illustrated generally by lines 832, 834,836, and 838 in FIG. 8. Also, in FIG. 8, elements above dashed line 855 are provided by an administrator or service provider of the system of the present invention. Each of the device engines 862, 864, 866 and 868 is configured relative to the type of device on which it resides. For example, the Cell phone device engine 862 includes one or more components arranged on the phone while others are on server 850. Conversely, device engine 866 resides entirely on the windows device 806.</p> <p>Data from each of the devices is coupled via an Internet connection 710 with a storage server 850.</p> <p>To the extent Plaintiff argues that the FedEx Prior Art Systems and <i>Mutler</i>, and the FedEx Prior Art Systems and <i>Luo</i>, in view of <i>Mutler</i>, do not teach accessing a program on a remote computing device, where the remote computing device is a server, the FedEx Prior Art Systems and <i>Luo</i>, in view of <i>Riggins</i> does. <i>Riggins</i> discloses providing access to computer services (e.g., programs) on a server over a network using a client device. One skilled in the art would recognize <i>Riggin's</i></p>

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	<p>server as being configured to store an assessment program and provide access to a client device that is a handheld device. <i>See, e.g., Riggins</i>, Abstract; Figs. 1-7; 1:5-2:16; 2:47-8:43; Claims 1-43</p> <p>(<i>Riggins</i> at Abstract) A system for communicating through a computer network. The system includes a communications engine for establishing a communications link with a server, a browser, coupled to the communications engine, for receiving applet information corresponding to a service from the server, and an applet engine for using the applet information to control user interface I/O of the service. The communications engine may confirm user access privileges before establishing a communications link between the client and the server. The communications engine receives configuration data, and configures client attributes using the configuration data to provide a user-specific user interface to the client. It will be appreciated that the system may be stored on a floppy disk or hard drive.</p> <p>(<i>Riggins</i> at 2:47-55) FIG. 1 is a block diagram illustrating a roaming-user network access system 100, in accordance with the present invention. System 100 includes a network of computers, referred to herein as an "internet" 140, connected via a master server 130 to a local network 120. A first local client 110 and a second local client 160 are addressably connected via the local network 120 to the master server 130. A remote client 150 is connected via the internet 140 to the master server 130. Another server 166 is also connected via the internet 140 to the remote client 150, to the master server 130 and to the local clients 110 and 160.</p> <p>(<i>Riggins</i> at 3:15-48) The master server 130 includes a web page engine 133 for maintaining and providing access to an internet web page which is enabled to forward applets 136 to the web browser 155 of the remote client 150. A user can select a particular service which corresponds to one of the applets 136, thereby causing the web browser 155 of the remote client 150 to initiate execution of the corresponding applet 130. Execution of the applet 130 causes the appropriate service engine 115 or 165 to execute the particular service or access</p>

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	<p>an already executing service. It will be appreciated that executing a service may include directing Input/Output (I/O) control of a service application program, such as an e-mail application program, a paging application program or a word-processing application program, to the remote client 150 user.</p> <p>The master server 130 further includes configuration data 137, which the remote client 150 can download to gain access to the desired service and to configure the functionality, look and feel of the web browser 155. The configuration data 137 may include operating system settings such as TCP protocol data and the domain name server address, user preferences, bookmarks, services, service addresses, etc. Each user preferably uploads unique configuration data 137 to the master server 130 in order to obtain similar functionality, look and feel from any web browser 155.</p> <p>Similar to the local clients 110 and 160, the master server 130 may include a service engine 138 for providing access to a third computer service, and server 166 may include a service engine 167 for providing access to a fourth computer service. Service engines 138 and 166 are described in greater detail with reference to FIG. 4. From the remote client 150 user's standpoint, the location of the service engine does not matter.</p> <p>(<i>Riggins</i> at 4:18-33) Although not shown in FIG. 1, a web browser 155 may be placed on a local client 110 or 160. A user can access the web page engine 133 from the local client 110 or 160 to take advantage of the services provided by the master server 130, by the server 166 or even by the local clients 110 or 160. For example, the local client user may access the web page engine 133 and select a particular service which resides on the local client 110. Accordingly, the applets 136 would launch the service on the local client 110 and would provide direct I/O control of the service to the user. Those skilled in the art will recognize that a particular service engine may require the services of other service engines. It will be appreciated that the local client user need not know the location of each service. The local client user need only access the master server 130.</p> <p>One skilled in the art would also look to combine the teachings of <i>Riggins</i> with the FedEx Prior</p>

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	Art Systems for the purposes of storing programs and collected data on a larger capacity storage device (e.g., a server). Doing so would be nothing more than substituting one known element for another to yield predictable results.
6. The method of claim 1, wherein the assessment program includes at least one of a construction industry analysis program, HVAC analysis program, project management program, equipment readiness program, troubleshooting program, inventory tracking or ordering program, legal investigation program, or multi-user coordination program.	The assessment program of the FedEx Prior Art Systems enabled a field assessment in the shipping and logistics industry (e.g., package pickup and delivery). <i>See</i> , the disclosures cited above for claim 1. One skilled in the art would consider the assessment program of the FedEx Prior Art Systems to be at least a project management program, equipment readiness program, inventory tracking or ordering program, and/or multi-user coordination program.
7. A handheld device, comprising:	The FedEx Prior Art Systems used a handheld device. <i>See</i> the disclosures cited above for claim 1.
a communication module configured to download a field	The '581 patent does not distinguish between the field management program in claim 7 and the assessment program in claim 1, and does not use either term in the specification outside of the claims.

'581 Patent Claims	Disclosure by FedEx Prior Art Systems and/or Other Prior Art
management program stored in a computing device located remotely from the handheld device;	<p>The handheld devices of the FedEx Prior Art Systems included a communication module that was at least an infrared, microradio, or telephone communications port. The handheld devices, including the Supertracker, DADS handheld, and Powerpad, communicated with one or more intermediate storage devices. As described by Stephenson, the FedEx Prior Art System, one such intermediate storage device was a docking station, which could communicate software to the handheld device using the communication module. <i>See, e.g.</i>, App. D10 (including citations to Stephenson describing the FedEx Prior Art Systems); Federal Express, Enhanced SuperTracker (EST) Maintenance Manual, at §§ 1, 2, Appx. A (Aug. 31, 1997); Federal Express, Future Courier Tool Concepts, V0.2, at 2-7 (May 10, 1995); Federal Express, DADS User Manual (Training Version) (May 1995); Federal Express, The Federal Express DADS Handheld: An Introduction, V1.2, at 2-39 (Apr. 17, 1995); Federal Express, FMT941 Mobile Data Terminal Maintenance Manual (Aug. 31, 1994). <i>See also</i> Nehls at 57-81; Richard O. Mason, Absolutely, Positively Operations Research: The Federal Express Story, Institute for Operations Research and the Management Sciences, Interfaces 27:2, at 29-30 (Mar.-Apr. 1997).</p> <p><i>See also</i> Expected testimony and evidence from current and former FedEx employees and/or those familiar with the development, design, and/or use of the FedEx Prior Art Systems.</p> <p>One skilled in the art would understand this to have provided a communication module configured to download a field management program (e.g., software) stored in a computing device located remotely from the handheld device.</p> <p>One skilled in the art would also consider this feature obvious over the combination of the FedEx Prior Art Systems with Huang. <i>See</i>, the disclosures cited above for claim 1. <i>see also, e.g., Huang</i>, Abstract; Figs. 1-7; 1:9-3:52; 4:13-7:67; Claims 1-20. Huang discloses a management system for selectively distributing applications and databases from a server computer to a plurality of intermittently connected handheld devices. One skilled in the art would have found it obvious to combine the communication module of the handheld devices of the FedEx Prior Art Systems with</p>

'581 Patent Claims	Disclosure by FedEx Prior Art Systems and/or Other Prior Art
	<p>the ability to download programs from Huang. Doing so would have been nothing more than combining their teachings to yield a predictable result.</p> <p><i>(Huang at Abstract)</i> The present invention is a novel management system for selectively distributing applications and databases from a server computer to a plurality of intermittently connected handheld devices. The applications and databases to be downloaded and deleted are first selected from an application list maintained by handheld devices. After established a connection with the server computer, the application list of selected applications is copied to the server computer which maintains an access control list indicating which applications are permitted to be downloaded to which handheld devices. The server computer examines the application list and the access control list to determine which applications are both selected and are authorized for use by the handheld device. After determining that requested applications are authorized for requesting devices, these applications are downloaded. If the connected handheld device does not have that the application list, the application list is created for it and downloaded.</p> <p><i>(Huang at 2:10-21)</i> An alternative way of distributing handheld applications within an organization, is to have a centralized server that manages a user pool, a handheld device pool, and an application pool. To install an application, a handheld device must first connect to the network and make such a request directly to the centralized server. It is the server's responsibility to authenticate the handheld device and its user, to authorize the application installation request based on the user profile, the device usage, and a pre-configured access-control policy. If the application installation request is authorized, the server downloads the target applications to the device.</p> <p><i>(Huang at 4:25-37)</i> The process of a client requesting application download and the server servicing this request is performed while the requesting client remains connected to the network. A handheld device can obtain a connection to a network, such as the Internet or a</p>

'581 Patent Claims	Disclosure by FedEx Prior Art Systems and/or Other Prior Art
	<p>local area network, by dialing up to a network remote access server through a modem, or by having a direct serial-port connection, e.g., the Palm Pilot cradle, to a network connected intermediary computer. In the former case, the client synchronizes with the server directly; in the latter case, the client synchronizes with the server through an intermediate computer which passes along the information transmitted back and forth between the client and the server.</p> <p>(<i>Huang</i> at 5:51-64) FIG. 5 shows the logic flow of the application list manager 205 (FIG. 2) in the client device, used to modify the application list 506. After the application manager is started in step 501, the list of applications 506 available for download from the server is displayed in step 502. In step 503, the user selects applications to either delete or to download. If the application was selected for deletion, at step 504 it is deleted from the client device if the application was installed there. If the application was selected for download, a request to download the next time the client synchronizes with the server is issued at step 505. At step 506, the status of all applications is updated accordingly and recorded in the application list 506, after which the program control returns to step 502.</p>
<p>a memory configured to store the field management program after the download;</p>	<p>The FedEx Prior Art Systems used handheld devices that included memory configured to store the field management program. <i>See, e.g.</i>, App. D10 (including citations to Stephenson describing the FedEx Prior Art Systems); Federal Express, Enhanced SuperTracker (EST) Maintenance Manual, at §§ 1, 2, Appx. A (Aug. 31, 1997); Federal Express, Future Courier Tool Concepts, V0.2, at 2-7 (May 10, 1995); Federal Express, DADS User Manual (Training Version) (May 1995); Federal Express, The Federal Express DADS Handheld: An Introduction, V1.2, at 2-39 (Apr. 17, 1995); Federal Express, FMT941 Mobile Data Terminal Maintenance Manual (Aug. 31, 1994). <i>See also</i> Nehls at 57-81; Richard O. Mason, Absolutely, Positively Operations Research: The Federal Express Story, Institute for Operations Research and the Management Sciences, Interfaces 27:2, at 29-30 (Mar.-Apr. 1997).</p> <p><i>See also</i> Expected testimony and evidence from current and former FedEx employees and/or those</p>

'581 Patent Claims	Disclosure by FedEx Prior Art Systems and/or Other Prior Art
	familiar with the development, design, and/or use of the FedEx Prior Art Systems.
a position module configured to enable identifying a geographic location of the handheld device; and	<p>As with claim 1, the handheld devices of the FedEx Prior Art Systems included a position module configured to enable identifying a geographic location of the handheld device. <i>See, e.g.</i>, App. D10 (including citations to Stephenson describing the FedEx Prior Art Systems); Federal Express, Enhanced SuperTracker (EST) Maintenance Manual, at §§ 1, 2, Appx. A (Aug. 31, 1997); Federal Express, Future Courier Tool Concepts, V0.2, at 2-7 (May 10, 1995); Federal Express, DADS User Manual (Training Version) (May 1995); Federal Express, The Federal Express DADS Handheld: An Introduction, V1.2, at 2-39 (Apr. 17, 1995); Federal Express, FMT941 Mobile Data Terminal Maintenance Manual (Aug. 31, 1994). <i>See also</i> Nehls at 57-81; Richard O. Mason, Absolutely, Positively Operations Research: The Federal Express Story, Institute for Operations Research and the Management Sciences, Interfaces 27:2, at 29-30 (Mar.-Apr. 1997).</p> <p><i>See also</i> Expected testimony and evidence from current and former FedEx employees and/or those familiar with the development, design, and/or use of the FedEx Prior Art Systems.</p> <p>In addition, the combination of the FedEx Prior Art Systems with Gildea renders this feature obvious to one of skill in the art. <i>See</i> the disclosures cited above for claim 1; <i>see also</i>, <i>Gildea</i>, Abstract, 4:58-5:34.</p> <p>(<i>Gildea</i> at Abstract) A GPS receiver system to determine and display a geographical differential Global Positioning System (DGPS) location where the components of the system are interconnected with an airwave infrared (IR) link. The system includes a GPS Smart Antenna receiver module to determine the geographical location of the module, a DGPS radio receiver to receive an airwave radio frequency DGPS signal having DGPS correction information, and a personal computing display to run an application program and to display the geographical DGPS location and application information that is useful to a user. The GPS Smart Antenna receiver module and the DGPS radio receiver are switched</p>

'581 Patent Claims	Disclosure by FedEx Prior Art Systems and/or Other Prior Art
	<p>on and off from the personal computing display through the airwave IR link.</p> <p>(<i>Gildea</i> at 4:58-5:34) The personal computing display 13 includes a processor system 32 for receiving, processing, and issuing electronic signals. The processor system 32 includes a microprocessor 36 that operates in a conventional manner to receive electronic signals and to process the signals according to pre-programmed instructions in an executable code 38 and variable data 40 stored in a memory 42. An I/O circuit 43, such as a Universal Asynchronous/synchronous Receiver Transmitter (UART), available as an electronic part from many vendors, converts parallel data electronic signals from the microprocessor 36 to serial data electronic signals to the display IR receiver 20 and converts serial data electronic signals from the display IR receiver 20 to parallel data electronic signals to the microprocessor 36. A user entry device 44, such as a keyboard, a keypad, a touchscreen, a switch, a microphone, or a combination thereof, is operated by a human user to enter information. The user may enter program information, such as a selected geographical location. The user entry device 44 responds by issuing a user device electronic signal to the microprocessor 36. The executable code 38 includes instructions to receive the electronic signal, to store the selected geographical location in variable data 40 and to compute user output information of a distance and a direction between the location of the module 12 and the selected location. The microprocessor 36 issues electronic display signals to a display device 46, such as a liquid crystal (LCD), light emitting diode LED display, or an equivalent to display the user output information in a form that is visible to the human user. Optionally, the display device 46 includes a speaker to display the information in a form that is audible to the human user. In a preferred embodiment, the processor system 32, the user entry device 44, the display device 46, the display IR receiver 20, and the display IR transmitter 22 are included in a commercially available personal digital computing device, such as are manufactured by several companies including Casio, Apple, Hewlett-Packard, and Sony and known by various names, such as a digital assistant, a personal digital assistant (PDA), a personal information manager (PIM), a notebook computer, a sub-notebook computer, a PCMCIA computer, a "Zoomer", a "Newton," a "Dataman," or an equivalent. Optionally, the display IR receiver 20 and the display IR transmitter 22 may be</p>

'581 Patent Claims	Disclosure by FedEx Prior Art Systems and/or Other Prior Art
	included as an accessory to the commercially available device.
a processor configured to execute the stored field management program to enable collecting field data associated with a field assessment while at a field;	<p>The handheld devices of the FedEx Prior Art Systems included a processor. <i>See, e.g.</i>, App. D10 (including citations to Stephenson describing the FedEx Prior Art Systems); Federal Express, Enhanced SuperTracker (EST) Maintenance Manual, at §§ 1, 2, Appx. A (Aug. 31, 1997); Federal Express, Future Courier Tool Concepts, V0.2, at 2-7 (May 10, 1995); Federal Express, DADS User Manual (Training Version) (May 1995); Federal Express, The Federal Express DADS Handheld: An Introduction, V1.2, at 2-39 (Apr. 17, 1995); Federal Express, FMT941 Mobile Data Terminal Maintenance Manual (Aug. 31, 1994). <i>See also</i> Nehls at 57-81; Richard O. Mason, Absolutely, Positively Operations Research: The Federal Express Story, Institute for Operations Research and the Management Sciences, Interfaces 27:2, at 29-30 (Mar.-Apr. 1997).</p> <p><i>See also</i> Expected testimony and evidence from current and former FedEx employees and/or those familiar with the development, design, and/or use of the FedEx Prior Art Systems.</p>
wherein the communication module is further configured to communicate the field data and the geographic location of the handheld device to the computing device.	<p>As with Claims 1, 3, and 4, the FedEx Prior Art Systems discloses and the combination of the FedEx Prior Art Systems with Gildea renders this feature obvious to one skilled in the art.</p> <p>One skilled in the art would consider it obvious based on the handheld devices of the FedEx Prior Art Systems in view of Gildea to send, along with data, the location data obtained from Gildea. <i>See</i>, the disclosures cited above for claims 1, 3, and 4. <i>See also, e.g.</i>, App. D10 (including citations to Stephenson describing the FedEx Prior Art Systems); Federal Express, Enhanced SuperTracker (EST) Maintenance Manual, at §§ 1, 2, Appx. A (Aug. 31, 1997); Federal Express, Future Courier Tool Concepts, V0.2, at 2-7 (May 10, 1995); Federal Express, DADS User Manual (Training Version) (May 1995); Federal Express, The Federal Express DADS Handheld: An Introduction, V1.2, at 2-39 (Apr. 17, 1995); Federal Express, FMT941 Mobile Data Terminal Maintenance Manual (Aug. 31, 1994). <i>See also</i> Nehls at 57-81; Richard O. Mason, Absolutely, Positively Operations Research: The Federal Express Story, Institute for Operations Research and the Management Sciences, Interfaces 27:2, at 29-30 (Mar.-Apr. 1997).</p>

'581 Patent Claims	Disclosure by FedEx Prior Art Systems and/or Other Prior Art
	<i>See also</i> Expected testimony and evidence from current and former FedEx employees and/or those familiar with the development, design, and/or use of the FedEx Prior Art Systems.
8. The handheld device of claim 7, wherein the communication module is further configured to wirelessly download the field management program stored in the computing device.	<p>As with Claims 1, 3-4, and 7, the FedEx Prior Art Systems wirelessly downloaded the field management program. <i>See</i>, the disclosures cited above for claims 1, 3, and 4; <i>see also</i> App. D10 (including citations to Stephenson describing the FedEx Prior Art Systems); Federal Express, Enhanced SuperTracker (EST) Maintenance Manual, at §§ 1, 2, Appx. A (Aug. 31, 1997); Federal Express, Future Courier Tool Concepts, V0.2, at 2-7 (May 10, 1995); Federal Express, DADS User Manual (Training Version) (May 1995); Federal Express, The Federal Express DADS Handheld: An Introduction, V1.2, at 2-39 (Apr. 17, 1995); Federal Express, FMT941 Mobile Data Terminal Maintenance Manual (Aug. 31, 1994). <i>See also</i> Nehls at 57-81; Richard O. Mason, Absolutely, Positively Operations Research: The Federal Express Story, Institute for Operations Research and the Management Sciences, Interfaces 27:2, at 29-30 (Mar.-Apr. 1997).</p> <p><i>See also</i> Expected testimony and evidence from current and former FedEx employees and/or those familiar with the development, design, and/or use of the FedEx Prior Art Systems.</p> <p>The combination of the FedEx Prior Art Systems with Huang also renders this feature obvious to one of skill in the art by disclosing a wireless communication module and the ability to download a program. <i>See</i>, the disclosures cited above for claims 1, 3-4, and 7.</p>
9. The handheld device of claim 7, wherein the communication module is further configured to enable real-time access to the field management program stored in the computing	As with claim 7, the FedEx Prior Art Systems alone and the FedEx Prior Art Systems in view of Huang both disclosed this feature, because the wireless communication module of the FedEx Prior Art Systems and the downloading capability of the FedEx Prior Art Systems /Huang allow the handheld device to be configured to download software (e.g., the field management program). One skilled in the art would recognize that downloading a field management program from a computing device provides real-time access to the field management program on the computing device. <i>See</i> , the disclosures cited above for claim 7; <i>see also</i> App. D10 (including citations to Stephenson describing the FedEx Prior Art Systems); Federal Express, Enhanced SuperTracker (EST) Maintenance Manual, at §§ 1, 2, Appx. A (Aug. 31, 1997); Federal Express, Future Courier

'581 Patent Claims	Disclosure by FedEx Prior Art Systems and/or Other Prior Art
device.	<p>Tool Concepts, V0.2, at 2-7 (May 10, 1995); Federal Express, DADS User Manual (Training Version) (May 1995); Federal Express, The Federal Express DADS Handheld: An Introduction, V1.2, at 2-39 (Apr. 17, 1995); Federal Express, FMT941 Mobile Data Terminal Maintenance Manual (Aug. 31, 1994). <i>See also</i> Nehls at 57-81; Richard O. Mason, Absolutely, Positively Operations Research: The Federal Express Story, Institute for Operations Research and the Management Sciences, Interfaces 27:2, at 29-30 (Mar.-Apr. 1997).</p> <p><i>See also</i> Expected testimony and evidence from current and former FedEx employees and/or those familiar with the development, design, and/or use of the FedEx Prior Art Systems.</p>
10. The handheld device of claim 9, wherein the communication module is further configured to establish a two-way communication channel between the handheld device and the computing device.	<p>The handheld devices of FedEx Prior Art Systems included a communication module is further configured to establish a two-way communication channel between the handheld device and a computing device. <i>See</i> the disclosures cited above for claims 1, 3-4, and 7; <i>see also</i> App. D10 (including citations to Stephenson describing the FedEx Prior Art Systems); Federal Express, Enhanced SuperTracker (EST) Maintenance Manual, at §§ 1, 2, Appx. A (Aug. 31, 1997); Federal Express, Future Courier Tool Concepts, V0.2, at 2-7 (May 10, 1995); Federal Express, DADS User Manual (Training Version) (May 1995); Federal Express, The Federal Express DADS Handheld: An Introduction, V1.2, at 2-39 (Apr. 17, 1995); Federal Express, FMT941 Mobile Data Terminal Maintenance Manual (Aug. 31, 1994). <i>See also</i> Nehls at 57-81; Richard O. Mason, Absolutely, Positively Operations Research: The Federal Express Story, Institute for Operations Research and the Management Sciences, Interfaces 27:2, at 29-30 (Mar.-Apr. 1997).</p> <p><i>See also</i> Expected testimony and evidence from current and former FedEx employees and/or those familiar with the development, design, and/or use of the FedEx Prior Art Systems.</p>
11. The handheld device of claim 9, wherein the field management program	<p>The FedEx Prior Art Systems disclose this feature for the same reasons as cited in claims 1, 6, and 7. <i>See, e.g.</i>, the disclosures cited above for claims 1, 6, and 7. One skilled in the art would consider the FedEx Prior Art Systems to include at least a project management, equipment readiness, inventory tracking or ordering, and/or multi-user coordination management program.</p>

'581 Patent Claims	Disclosure by FedEx Prior Art Systems and/or Other Prior Art
includes at least one of a construction-industry, HVAC, project management, equipment readiness, troubleshooting, inventory management, legal investigation, or multi-user coordination field management program.	
12. The handheld device of claim 9, wherein the communication module is further configured to synchronize the field management program or the collected field data between the handheld device and the computing device.	<p>As with claim 7, the FedEx Prior Art Systems and the FedEx Prior Art Systems in view of Huang both disclose this feature, because the wireless communication module of the FedEx Prior Art Systems and the downloading capability of Huang allow the handheld devices to be configured to download the field management program and to transfer collected data to the remote computing device. One skilled in the art would recognize that downloading a field management program from a computing device synchronizes the field management program with the computing device. One skilled in the art would also consider docking the handheld device so that data can be transferred to the computing device to be “synchronizing . . . the collected data between the handheld device and the computing device.” <i>See, e.g.</i>, App. D10 (including citations to Stephenson describing the FedEx Prior Art Systems); Federal Express, Enhanced SuperTracker (EST) Maintenance Manual, at §§ 1, 2, Appx. A (Aug. 31, 1997); Federal Express, Future Courier Tool Concepts, V0.2, at 2-7 (May 10, 1995); Federal Express, DADS User Manual (Training Version) (May 1995); Federal Express, The Federal Express DADS Handheld: An Introduction, V1.2, at 2-39 (Apr. 17, 1995); Federal Express, FMT941 Mobile Data Terminal Maintenance Manual (Aug. 31, 1994). <i>See also</i> Nehls at 57-81; Richard O. Mason, Absolutely, Positively Operations Research: The Federal Express Story, Institute for Operations Research and the Management Sciences, Interfaces 27:2, at 29-30 (Mar.-Apr. 1997).</p> <p><i>See also</i> Expected testimony and evidence from current and former FedEx employees and/or those</p>

'581 Patent Claims	Disclosure by FedEx Prior Art Systems and/or Other Prior Art
	<p>familiar with the development, design, and/or use of the FedEx Prior Art Systems.</p> <p>To the extent further disclosure is required, the FedEx Prior Art Systems in view of Mutler discloses this feature. <i>See</i>, the disclosures cited above for claim 5.</p> <p>(<i>Mutler</i> at Abstract) A system and method for synchronizing devices which can couple to the Internet, or any network. The system includes a first sync engine on the first system interfacing with data on the first system to provide difference information. A data store is coupled to the network and in communication with the first and second systems. A second sync engine is provided on the second system coupled to receive the difference information from the data store via the network, and interface with data on the second system to update said data on the second system with said difference information. Difference information is transmitted to the data store by the first sync engine and received from the data store from the second sync engine.</p>
<p>13. The handheld device of claim 12, wherein the communication module is further configured to synchronize the field management program or the collected field data using a wireless radio channel between the handheld device and the computing device.</p>	<p>Claim 13 and claim 12 share substantially the same elements, with the exception of using a wireless radio channel to conduct the synchronization. As stated above for claims 3, 4, 7, 9, 10, and 12, the FedEx Prior Art Systems disclose this feature. <i>See, e.g.</i>, the disclosures cited above for claims 3, 4, 7, 9, 10, and 12.</p>

'581 Patent Claims	Disclosure by FedEx Prior Art Systems and/or Other Prior Art
14. The handheld device of claim 9, wherein the processor is further configured to analyze the collected field data to render output data.	As discussed with respect to claims 2 and 7, the FedEx Prior Art Systems disclose a handheld device processor for rendering output data and for analyzing the collected data. <i>See, e.g.</i> , the disclosures cited above for claims 2 and 7.
16. The handheld device of claim 9, wherein the position module is further configured to provide navigable instructions to enable finding the geographic location of the field.	<p>The FedEx Prior Art Systems, the combination of FedEx Prior Art Systems with Gildea, in view of Delorme, or the FedEx Prior Art Systems and Gildea, in view of Obradovich, render claim 16 obvious to one skilled in the art. <i>See, e.g.</i>, the disclosures cited above for claim 1; <i>see also</i>, <i>DeLorme</i>, Fig. 1A2-9, Abstract; 1:22-2:31, 4:21-5:53, 5:56-7:7, 6:33-49, 9:13-24, 14:16-27, 14:41-65, 16:23-29, 17:16-56, 18:1-58, 19:3-75:4; Claim 1-28; <i>Obradovich</i>, Figs. 1-33; 1:5-5:57, 7:13-8:67, 11:28-47, 16:1-53; Claims 1-42; <i>see also</i>, App. D10 (including citations to Stephenson describing the FedEx Prior Art Systems); Federal Express, Enhanced SuperTracker (EST) Maintenance Manual, at §§ 1, 2, Appx. A (Aug. 31, 1997); Federal Express, Future Courier Tool Concepts, V0.2, at 2-7 (May 10, 1995); Federal Express, DADS User Manual (Training Version) (May 1995); Federal Express, The Federal Express DADS Handheld: An Introduction, V1.2, at 2-39 (Apr. 17, 1995); Federal Express, FMT941 Mobile Data Terminal Maintenance Manual (Aug. 31, 1994). <i>See also</i> Nehls at 57-81; Richard O. Mason, Absolutely, Positively Operations Research: The Federal Express Story, Institute for Operations Research and the Management Sciences, Interfaces 27:2, at 29-30 (Mar.-Apr. 1997).</p> <p><i>See also</i> Expected testimony and evidence from current and former FedEx employees and/or those familiar with the development, design, and/or use of the FedEx Prior Art Systems.</p> <p>One skilled in the art would combine the GPS system of Gildea and the directions of Delorme/Obradovich with the data collecting abilities of the handheld devices in the FedEx Prior Art Systems to provide users with accurate instructions to stops on the user's route based on scanned package data. Doing so would be nothing more than combining known elements to yield a</p>

'581 Patent Claims	Disclosure by FedEx Prior Art Systems and/or Other Prior Art
	<p data-bbox="592 259 823 292">predictable result.</p> <p data-bbox="688 365 1858 1128"><i>(DeLorme at 1:22-2:31)</i> This invention relates to a new Integrated Routing/Mapping Information System (IRMIS) for travel planning, travel guidance, and recording travel locations and paths during business or recreational use, particularly in regard to the linkage of small, memory-limited computing systems with personal and/or mainframe computers. The invention may include the capability to provide an interactive computer travel-planning guide for determining a route between a user selected travel origin and travel destination following user selected intermediate waypoints along the way. System software determines the preferred travel route within user selected constraints. The user can also select among a plurality of types of geographically locatable points of interest (POIs) within a user-defined region of interest along the travel route. A database enables the incorporation of travel information such as graphics, photos, videos, animations, audio and text information about the user selectable POIs along the way as well as about transportation routes and waypoints. From the user selected and user-defined transportation routes, waypoints, and POIs along the travel route, the software constructs a user customized multimedia travel log for preview on a computer display of the user-defined travel route. Based on the user-customized previews, the travel route including transportation routes, waypoints, and points of interest can be updated or changed according to the user preferences and choices. Modified travel routes can be previewed with further multimedia travel logs until a satisfactory travel route is achieved. The user can output a travel plan, i.e.; downloading waypoints electronically and/or printing out maps with route indications and text travel directions.</p> <p data-bbox="688 1201 1848 1414"><i>(Obradovich at 16:1-53)</i> FIG. 20 illustrates a list of GPS encoded data for a restaurant listing of restaurants in a requested area. This list may have been furnished by third parties or a data provider. The PCD has stored this information in digital format and is displayed on a GEO coded map, GIFF map or any other map the PCD stored in memory or receives from a third party or data provider. The information can be arranged by the PCD using criteria enabling the user unlimited access to the data. If the user chooses to navigate to</p>

'581 Patent Claims	Disclosure by FedEx Prior Art Systems and/or Other Prior Art
	<p>these locations singularly or as a group, the GPS engine performs these functions, allowing a user of the device to accurately travel to the desired restaurant. As shown in FIG. 21, the PCD can use any scale of map or combinations and other types of maps as shown. The user of the PCD selects certain maps for storage and recalls same when needed for navigation. By way of example, the user's device could have a local Los Angeles street map, an interstate map (as shown in FIG. 21), and a New York city map in device memory. The user could navigate to the airport using the GPS functions and stored Los Angeles map, fly to New Jersey, rent a car and navigate to New York using the interstate map and, finally, find a specific restaurant in New York City by using the third map stored in PCD memory.</p> <p>As shown in FIG. 22, the PCD contains a map with various waypoint locations the user has selected. These waypoints are both standard waypoints 221 and linked waypoints 222. The waypoints are indicated by a marker on the display. Standard waypoints indicate identifiable locations of interest. Linked waypoints have additional data associated with the waypoint. The additional data may be text data, visual data such as a photographic image of the waypoint, or an audio data file. When the marker for the linked waypoint is selected using the touch screen or other input device, the processor determines if the additional data associated with the waypoint is available in the PCD memory. If the additional data is not available in the PCD memory, the PCD automatically requests the additional data from a data provider. Once the additional data is available, the PCD displays or otherwise makes use of the additional data.</p> <p>Using the map of FIG. 22, the user could navigate to a school, restaurant, bank, gas station, government office using the PCD to interpolate using spatial query techniques to find the best routes to each location. The PCD can re-collate the list for the most efficient route using the application and GPS engine modules. Using software programming techniques and math formulas, persons skilled in the arts will utilize spatial analysis queries and functions to determine best routing and "closest to" scenarios. In addition, centroid interpolation functions and match-rate comparison functions used by the GEO coding community will further enhance this application's ability to universally communicate with other systems.</p>

'581 Patent Claims	Disclosure by FedEx Prior Art Systems and/or Other Prior Art
<p>17. The handheld device of claim 9, wherein the field management program includes an inventory program accessible from the handheld device and configured to enable access to inventory data stored in the computing device.</p>	<p>One skilled in the art would understand the FedEx Prior Art Systems as disclosing this feature. As described by Stephenson, packages are scanned as they are loaded into a vehicle and package data is transmitted to a central storage facility. One skilled in the art would consider package data for packages loaded onto a vehicle to be “inventory data.” Moreover, one skilled in the art would consider a program handling this inventory data would be an “inventory program” within the plain meaning of the term. Given the data collection device has access to the central storage facility, one skilled in the art would further consider the FedEx Prior Art Systems as teaching “an inventory program accessible from the handheld device and configured to enable access to inventory data stored in the computing device.” <i>See, e.g.</i>, App. D10 (including citations to Stephenson describing the FedEx Prior Art Systems); Federal Express, Enhanced SuperTracker (EST) Maintenance Manual, at §§ 1, 2, Appx. A (Aug. 31, 1997); Federal Express, Future Courier Tool Concepts, V0.2, at 2-7 (May 10, 1995); Federal Express, DADS User Manual (Training Version) (May 1995); Federal Express, The Federal Express DADS Handheld: An Introduction, V1.2, at 2-39 (Apr. 17, 1995); Federal Express, FMT941 Mobile Data Terminal Maintenance Manual (Aug. 31, 1994). <i>See also</i> Nehls at 57-81; Richard O. Mason, Absolutely, Positively Operations Research: The Federal Express Story, Institute for Operations Research and the Management Sciences, Interfaces 27:2, at 29-30 (Mar.-Apr. 1997).</p> <p><i>See also</i> Expected testimony and evidence from current and former FedEx employees and/or those familiar with the development, design, and/or use of the FedEx Prior Art Systems.</p> <p>One skilled in the art would consider this feature obvious over the combination of the FedEx Prior Art Systems and Wright. Wright discloses a data synchronization system for a portable client computer that includes an inventory program (inventory service 192) accessible from a handheld device and configured to enable access to inventory data (inventory data source 182) stored in a computing device. <i>See, e.g.</i>, Wright, 6:46-56, 7:1-10, 7:45-53, 8:45-65. One skilled in the art would combine the teachings of the FedEx Prior Art Systems with Wright for the purpose of providing inventory data to a delivery driver using the FedEx Prior Art Systems. Doing so would</p>

'581 Patent Claims	Disclosure by FedEx Prior Art Systems and/or Other Prior Art
	<p>be nothing more than combining known elements to yield predictable results.</p> <p>(<i>Wright</i> at 6:46-56) Because mobile clients cannot maintain a persistent connection to the FL server 132, they must "connect" for short periods of time to perform a specified operation or set of operations. Each of these connections is referred to as a "session", during which time a specified set of operations are performed between the FL client and FL server. Examples of these sessions include connecting to retrieve work orders, checking inventory on a product, or retrieving a monthly price list update. Each "session" encompasses connecting the remote host, performing a specific task or set of tasks, and then disconnecting from the host. Because the connection times must be short, the FL client and FL server need to be able to perform the required tasks without user intervention. This is very different from a persistent connection based client/server model where the connection exists the entire time the application is used, and data is only retrieved when the user requests it.</p>
<p>18. An apparatus, comprising:</p> <p>means for establishing a two-way communication channel between a server and at least one handheld device located at a field geographically distant from the server;</p>	<p>Although expressed in means-plus-function terms, claim 18 recites features substantially identical to those of claims 1-14, 16-17. The term "means for establishing a two-way communication channel between a server and at least one handheld device located at a field geographically distant from the server," may correspond to the "communication module 42," "integrated modem 40," or "communications link 38" of the '581 patent. <i>See</i>, Barbosa, Figs. 3-4, 13; 6:21-50, 11:67-12:7, 12:36-47. The FedEx Prior Art Systems disclosed "means for establishing a two-way communication channel" in the same manner it disclosed a communications module (claims 7-10). The FedEx Prior Art Systems, the combination of the FedEx Prior Art Systems and Luo, in view of Mutler, and the FedEx Prior Art Systems and Luo, in view of Riggins, teach accessing a server in the same manner as disclosed in claim 5. The components of the FedEx Prior Art Systems that establish the two-way communication channel is equivalent to the portions of the '581 patent identified above. <i>See, e.g.</i>, the disclosures cited above for claims 7-10 and 15.</p>
<p>means for accessing a program stored at the</p>	<p>The term "means for accessing a program stored at the server to enable an assessment at the field using the at least one handheld device," may correspond to the "communication module 42,"</p>

'581 Patent Claims	Disclosure by FedEx Prior Art Systems and/or Other Prior Art
server to enable an assessment at the field using the at least one handheld device;	“integrated modem 40,” or “communications link 38” of the '581 patent. <i>See</i> , Barbosa, Figs. 3-4, 13; 6:21-50, 11:67-12:7, 12:36-47. The FedEx Prior Art Systems disclosed this limitation for the same reasons discussed above with regard to the “accessing an assessment program” step of claim 1 and the “communication module” feature of claim 7. The FedEx Prior Art Systems, the combination of the FedEx Prior Art Systems and Luo, in view of Mutler, teach accessing a server in the same manner as disclosed in claim 5. The components of the FedEx Prior Art Systems for accessing a remote program are equivalent to the portions of the '581 patent identified above. <i>See</i> , e.g., the disclosures cited above for claims 1 and 7.
means for managing data collected at the field using the at least one handheld device responsive to program;	<p>The term “means for managing data collected at the field using the at least one handheld device responsive to program,” may correspond to the “processor 22,” “ram 26,” and to the “field data management program” of the '581 patent. <i>See</i>, Barbosa, Fig. 2, 6:5-9, 7:50-8:12.</p> <p>This feature of claim 18 is so broad as to encompass a memory or a memory with a “field data management program” stored thereon. The handheld devices of FedEx Prior Art Systems included a memory that can store a programs on the data collection device for processing and managing the collected data. <i>See</i> the disclosures cited above for claim 7 and 17. And, the programs when executed by a processor in the handheld devices of FedEx Prior Art Systems both manage and enable the collection of field data. <i>See</i> the disclosures cited above for claim 7.</p> <p>The structures in the FedEx Prior Art Systems are equivalent to the corresponding structure disclosed in the '581 patent because there are no substantial differences between the memory, processor, and the client application of the FedEx Prior Art Systems, and the memory, processor, and field data management program of the '581 patent.</p>
means for determining a geographic location	The term “means for determining a geographic location of the at least one handheld device,” may correspond to the “position module 46” of the '581 patent. <i>See</i> , Barbosa, Fig. 5; 6:51-67. The combination of the FedEx Prior Art Systems and Gildea discloses this feature for the reasons

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of the at least one handheld device; and	discussed above with regard to the “position module” of claims 1 and 7. <i>See</i> the disclosures cited above for claims 1 and 7. Gildea’s position-tracking devices, such as GPS, are substantially equivalent to the structure of the ’581 patent identified above.
means for enabling communicating the data collected at the field and the geographic location of the at least one handheld device between the at least one handheld device and other devices or the server.	The term “means for enabling communicating the data collected at the field and the geographic location of the at least one handheld device between the at least one handheld device and other devices or the server,” may correspond to the “communication module 42,” “integrated modem 40,” or “communications link 38” of the ’581 patent. <i>See</i> , Barbosa, Figs. 3-4, 13; 6:21-50, 11:67-12:7, 12:36-47. The combination of the FedEx Prior Art Systems and Gildea teaches this feature for the reasons discussed above with regard to claim 1 and the “wherein” clause of claim 7. <i>See</i> the disclosures cited above for claims 1 and 7. The FedEx Prior Art Systems and Gildea’s components that communicate the collected data and geographic location are substantially equivalent to the portions of the ’581 patent identified above.
19. The apparatus of claim 18, further comprising means for tracking a location of the at least one handheld device.	The term “means for tracking a location of the at least one handheld device,” may correspond to the “position module 46” of the ’581 patent. <i>See</i> , Barbosa, Fig. 5; 6:51-67. The combination of the FedEx Prior Art Systems and Gildea, in view of DeLorme or Obradovich, teach this feature for the reasons discussed above with regard to the “position module” of claim 7 and navigable instructions in claim 16. <i>See</i> the disclosures cited above for claims 7 and 16. Gildea’s position-tracking devices, such as GPS, are substantially equivalent to the structure of the ’581 patent identified above.
20. The apparatus of claim 18, further comprising means for enabling updating field operation assignments for each of the at least	The term “means for enabling updating field operation assignments for each of the at least one handheld device,” may correspond to the “processor 22,” “ram 26,” and to the “method relating to project management,” of the ’581 patent. <i>See</i> , Barbosa, Figs. 1, 9; 10:45-11:12. The FedEx Prior Art Systems discloses this feature. <i>See, e.g.</i> , App. D10 (including citations to Stephenson describing the FedEx Prior Art Systems); Federal Express, Enhanced SuperTracker (EST) Maintenance Manual, at §§ 1, 2, Appx. A (Aug. 31, 1997); Federal Express, Future Courier Tool Concepts, V0.2, at 2-7 (May 10, 1995); Federal Express, DADS User Manual (Training Version)

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one handheld device.	<p>(May 1995); Federal Express, The Federal Express DADS Handheld: An Introduction, V1.2, at 2-39 (Apr. 17, 1995); Federal Express, FMT941 Mobile Data Terminal Maintenance Manual (Aug. 31, 1994). <i>See also</i> Nehls at 57-81; Richard O. Mason, Absolutely, Positively Operations Research: The Federal Express Story, Institute for Operations Research and the Management Sciences, Interfaces 27:2, at 29-30 (Mar.-Apr. 1997).</p> <p><i>See also</i> Expected testimony and evidence from current and former FedEx employees and/or those familiar with the development, design, and/or use of the FedEx Prior Art Systems.</p> <p>The FedEx Prior Art Systems in view of Khalessi also renders this feature obvious. Khalessi discloses updating a database to indicate that an assignment has been assigned to a field crew, and notifying the field crew of the assignment. Khalessi, Abstract; Figs. 1-18; 1:12-2:44, 3:33-7:28, 9:20-10:25, 11:59-12:61; claims 1-27. A skilled artisan would have found it obvious to modify the FedEx Prior Art Systems to include these features of Khalessi so that the modified system could manage and assign package pickups and deliveries for users in the field.</p> <p>(<i>Khalessi</i> 3:33-49) The present invention provides a multi-crew management system. More particularly the management system is an automated system for the distribution of work orders and related materials to field personnel dispersed over a wide geographic area. A work order, which may be any type of description of a particular task, are assigned using a centralized enterprise computing system and are communicated over a wireless network to field personnel having mobile computing units. Field personnel can use a mobile field unit to access the enterprise computing system and gather information about the work order as well as to update the enterprise computing system with details regarding the status of the work order. Thus, a system in accordance with the present invention provides two-way communication and work order automation with minimum dispatcher/operator interference.</p> <p>(<i>Khalessi</i> 4:35-46) Each field crew is assigned a mobile field unit 52. Thus, although only</p>

'581 Patent Claims	Disclosure by FedEx Prior Art Systems and/or Other Prior Art
	<p>one is shown in FIG. 1, numerous mobile field units 52 may be deployed and operating at once. As noted, each mobile field unit 52 has an IP address assigned to it. Further, enterprise computing system 50 comprises a database of entries indicating for each field unit, the field crew which has the unit. Thus, when a work order is assigned to a particular field crew, the inventive system automatically routes the appropriate commands and data as described below to the appropriate mobile field unit 52. Field crews are free to access enterprise computing system 50 to gather data that may be helpful in completing the assigned work order.</p>
<p>24. The apparatus of claim 18, further comprising:</p> <p>means for providing data to the server for analysis; and</p> <p>means for retrieving enhanced data from the server for use in conducting the field assessment.</p>	<p>The term “means for providing data to the server for analysis,” may correspond to the “communication module 42,” “integrated modem 40,” or “communications link 38” of the '581 patent. <i>See</i>, Barbosa, Figs. 3-4, 13; 6:21-50, 11:67-12:7, 12:36-47. The corresponding structure in claim 24 merely refers to means for providing data to a server and means for retrieving data from the server. This is disclosed in the '581 patent as corresponding to the communication module 42 in Fig. 3, for example. For the reasons discussed above with regard to the “communication module” limitation of claim 7 and “server” in claim 5, the FedEx Prior Art Systems, the FedEx Prior Art Systems/Luo/Mutler, and the FedEx Prior Art Systems/Luo/Riggins teach this feature. <i>See</i> the disclosures cited above for claims 5 and 7.</p> <p>Moreover, the FedEx Prior Art Systems, the FedEx Prior Art Systems/Luo/Mutler, and the FedEx Prior Art Systems/Luo/Riggins also disclose that the communication module in the handheld devices of FedEx Prior Art Systems provide data to a server (e.g., a central computer) for analysis (e.g., determining delivery, etc.), and retrieving enhanced data from the server (e.g., updated package data status showing delivered). <i>See</i> the disclosures cited above for claims 1 and 7; <i>see also</i>, App. D10 (including citations to Stephenson describing the FedEx Prior Art Systems); Federal Express, Enhanced SuperTracker (EST) Maintenance Manual, at §§ 1, 2, Appx. A (Aug. 31, 1997); Federal Express, Future Courier Tool Concepts, V0.2, at 2-7 (May 10, 1995); Federal Express, DADS User Manual (Training Version) (May 1995); Federal Express, The Federal Express DADS Handheld: An Introduction, V1.2, at 2-39 (Apr. 17, 1995); Federal Express, FMT941 Mobile Data Terminal Maintenance Manual (Aug. 31, 1994). <i>See also</i> Nehls at 57-81;</p>

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	<p>Richard O. Mason, Absolutely, Positively Operations Research: The Federal Express Story, Institute for Operations Research and the Management Sciences, Interfaces 27:2, at 29-30 (Mar.-Apr. 1997).</p> <p><i>See also</i> Expected testimony and evidence from current and former FedEx employees and/or those familiar with the development, design, and/or use of the FedEx Prior Art Systems.</p> <p>The components of the FedEx Prior Art Systems that communicate data to and retrieve data from the server are substantially equivalent to the portions of the '581 patent identified above.</p>